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EXAMINER	
LIU, HARRY K	

ART UNIT	PAPER NUMBER
3662	

MAIL DATE	DELIVERY MODE
11/05/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/593,297	HAN ET AL.	
	Examiner	Art Unit	
	HARRY LIU	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-22 and 24-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7, 9-22, 24-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Receipt is acknowledged of applicant's amendment filed (date). Claims (1-7, 9-22, 24-38) are pending and an action on the merits is as follows.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-7, 9-12, 14, 17-22, 24-28, 30, 33-34 rejected under 35 U.S.C. 103(a) as being unpatentable over Stein (2003/0008669) or Lin (2004/0219930) in view of Honkasalo (6101176).

Regarding claims 1-2, 10, 17-18, 26, 33, Stein discloses a terminal positioning in a global positioning system (GPS) satellite-invisible area (repeaters are commonly used in indoor which is satellite-invisible, paragraph 0007) in a code division multiple access (CDMA) or **W-CDMA** (paragraph 0006) mobile communication network by using a terminal, a plurality of location detectors (LDs) (RUs, Fig. 1b) for generating and sending offsets (PN generator, paragraph 0070), a position determination entity (PDE, FIG. 1) for controlling a position determination of the terminal and an LD mapping server including a position information database (PDE), comprising the steps of:

(a) the terminal which received a positioning request to obtain a reference pilot signal (different PN offset, delayed, paragraph 0017 & 0071) of a base transceiver station or a repeater and LD pilot signals generated from LDs (PN generator, paragraph 0070);

(b) the terminal transmitting information on the received reference pilot signal or the received LD pilot signals to the PDE by using a pilot strength measurement message (PSMM) if the reference pilot signal or the LD pilot signals are received with a strength not weaker than a predetermined value; CDMA network used PSMM to search for strong PN and add it into the active/candidate set (**T_ADD**);

(c) calculating a chip-based pseudo noise code phase from the PSMM transmitted to the PDE (repeater retransmit with delay based on chips in CDMA, paragraph 0017) (FIG. 5a-5d);

(d) transmitting the pseudo noise code phase to the LD mapping server if the pseudo noise code phase calculated at step (c) is a phase of one of positioning pseudo noise codes allocated for the position determination (paragraph 0010); and

(e) obtaining position information of the terminal by using the pseudo noise code phase transmitted to the LD mapping server (PDE).

Stein or Lin does not specifically disclose LD pilot signals are transmitted with a strength which is lower than that of the reference pilot signal. However, Honkasalo teaches an outdoor BS transmits relatively higher power than an indoor BS (col. 2, lines 55-67). Plus, it is known that outdoor site needs to handle much larger geographical serving radius than a typical indoor site and needs higher transmitting power than a

typical indoor repeater or LD. It would have been obvious to modify Stein or Lin with Honkasalo in order to contain the repeated signals indoor.

Regarding claims 3-7, 19-22, 34, Stein discloses at least two positioning pseudo noise codes are predetermined (FIG. 5c-5d) and the LD pilot signals are generated by intentionally **adding** offsets to the positioning pseudo noise codes and the offset is not larger than 64 chips(FIG. 5c-5d) .

Regarding claims 9, 24-25, Stein discloses each LD pilot signal includes a time delay component (chip) which is used to identify said each LD pilot signal as a signal with a first arrival path if said each LD pilot signal is received in the terminal (FIG. 5a-5d).

Regarding claims 11-12, 27-28, Stein discloses the information transmitted on reference pilot signals are delayed version of BTS pilot which certainly includes phase and measurement error of PN code.

Regarding claims 14, 30, Stein discloses repeater identification with PN offset (Abstract), repeaters database is typically saved in a server/database specifying its address with names. It would have been obvious to modify Stein with address and name in order to differentiate easier.

3. Claims 13, 15, 29, 31, 35, 37, are rejected under 35 U.S.C. 103(a) as being unpatentable over Stein (2003/0008669) or Lin in view of Honkasalo (6101176), as applied to claims 1, 18 rejection above, and further in view of Sih (6665539).

Regarding claims 13, 15, 29, 31, 35, 37, Stein as modified with Honkasalo, as applied to claims 1, 18 rejections above, discloses all claim limitations except for

specifying phase is measured and transmitted on a 1/16 chip basis or traffic state enabling. However, Sih teaches the use of 1/16 chip increments in differentiating delay/phase transition (col. 4. lines 23-31) and location service. It would have been obvious to modify Stein with Sih by incorporating 1/16 chip basis and location service (which needs to put handset in traffic mode) in order to differentiate delay information and receive location assistance.

4. Claims 16, 32, 36, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stein (2003/0008669) Lin in view of Honkasalo (6101176), as applied to claims 1, 18 rejection above, and further in view of Rajkotia (2004/0121774).

Regarding claims 16, 32, 36, 38, Stein as modified with Honkasalo, as applied to claims 1, 18 rejections above, discloses all claim limitations except for network sending PMRO to request terminal responds with PSMM.

However, Rajkotia teaches sending PMRO for PSMM measuring (paragraph 0071). It would have been obvious to modify Stein with Rajkotia by sending PMRO in order to trigger the terminal to do PSMM.

Response to Arguments

Applicant argues for claims 1 and 18 that Honkasalo “teaches away” from using higher transmission power of outdoor BS compared to the indoor BS and the outdoor BS and the indoor BS should have about the **same** transmitting power.

Applicant is correct only if the mobile is located right at the border of indoor and outdoor region which has pose ambiguity to mobile for determining which

(indoor/outdoor) PN to use. However, **this feature is not claimed**. Claims 1 and 18 recites pilot signals transmitted from LD vs transmitted from base station which is different from what mobile **received** from PSMM.

Applicant argues for claims 1 and 18, that previous office action is unclear which prior art discloses "the terminal transmitting information on the received reference pilot signal or the received LD pilot signals to the PDE by using a pilot strength measurement message (PSMM)". It is clear that **every** CDMA cellular system teaches this claim limitation since the mobile transmit/communicates with the serving cell/sector based on measurement of PSMM which is later assigned as serving sector by the system.

Applicant argues for claims 1, 18 that "reference does not teach using any message generally used for hand-off to transmit, if at all, positioning information from the terminal". **This feature is not claimed**. Applicant claims transmitting information on the reference pilot signal or the LD pilot signals to the PDE. A reverse pilot channel in a 3G CDMA system uses reverse pilot to indicate the mobile's signal quality which is an information transmitted.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry Liu whose telephone number is 571-270-1338. The examiner can normally be reached on Monday -Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, please **leave a voice message** with application serial number and nature of call, a response within 24 hours can be expected during regular business days. Also, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-270-2338.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Harry Liu
Examiner, Art Unit 3662

November 5, 2008

/Thomas H. Tarcza/

Supervisory Patent Examiner, Art Unit 3662